DOCUMENT RESUME

ED 241 152 PS 014 187

AUTHOR Silbereisen, Rainer K.
TITLE Action Theory Perspective in Research on Social Cognition.
INSTITUTION Technical Univ. of Berlin (West Germany).
PUB DATE 84
NOTE 45p.; Earlier version of this paper was presented at Planning Conference on Child Development in Life-Span Perspective (Berlin, West Germany, July 9-11, 1981).
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adolescents; Adults; Children; *Cognitive Development; Interaction; *Research Methodology; *Social Cognition; Theories; Trainees; Trainers
IDENTIFIERS *Action Theory; Goal Directed Behavior; Referential Communication; Social Interaction; *Theory Development; Traffic Behavior

ABSTRACT

The primary aims of this paper are to (1) clarify what is meant by an action theory perspective on the study of human development, and (2) report a series of developmental studies focusing on social cognition. In particular, it is pointed out that theories, methodologies, and empirical strategies realize an action theory perspective if human beings are assumed to be potentially reflective and to act intentionally with reference to the environment. An action theory perspective on psychological development regards development itself as actively initiated through intentional, goal-directed actions and interactions of the developing subjects themselves. Methods consistent with the perspective include a combination of systematic observations and self-confrontation interviews. Specific studies reported were undertaken in three interaction contexts to evaluate the role of thinking about action. Contexts involved action accompanying social cognition in children's traffic behavior, in referential communication between parent and child, and in trainer/trainee interaction between adults and adolescents. Concluding remarks focus on potential contributions of the redefinition of social cognition as thinking about action. (RH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
X Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED241152

TECHNISCHE UNIVERSITAT BERLIN

Berichte aus der Arbeitsgruppe
TU drop Jugendforschung
31/84

Forschungsprojekt:

Jugendentwicklung und Drogen
mit Unterstutzung der Forschungsgemeinschaft

Rainer K. Silbereisen

Action Theory Perspective in Research on Social Cognition

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Technische Universität Berlin, Institut für Psychologie Prof. Dr. Rainer K. Silbereisen
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

PS 014187

Technische Universitat Berlin, Institut fur Psychologie, D-1000 Berlin 10

0. Darstellung des Gesamtprojekts: Der Berliner Jugend-Längsschnitt

(DFG-Projekt "Jugendentwicklung und Drogen": Si 296/ff.)

Gebrauch und Mißbrauch von Suchtmitteln durch Jugendliche sind Ausdruck allgemeiner Prozesse der Jugendentwicklung, deren Besonderheit nur im Kontext des Auseinanderlaufens von Jugend- und Erwachsenenkultur verstanden werden kann. Eine Schlüsselrolle zur empirischen Überprüfung kommt prospektiven Längsschnittstudien an Normalpopulationen zu. Mit Ausnahme einer Schweizer Studie wurden alle Untersuchungen dieser Art in den U.S.A. durchgeführt.

Selbst die führenden Studien von U.S.-Forschern wie Kandel, Jessor & Jessor oder Bentler genügen aber nicht den notwendigen Ansprüchen. Dies ist in theoretischen Defiziten (Ansätze der Jugendsoziologie und -psychologie sind kaum eingearbeitet) und Schwächen der empirischen Umsetzung (situationsspezifische Handlungskompetenzen und Szenenerfahrungen werden methodisch verkürzt erhoben) begründet. Drogenforschung und Jugendforschung haben dabei eins gemein: Personorientierte und situationsorientierte Ansätze stehen einander in Art verfeindeter Paradigmen unverbunden gegenüber.

Im Gegensatz hierzu hat die eigene Studie zum Ziel, ein theoretisches Modell zu entwickeln und zu prüfen, welches den Drogengebrauch als eine Strategie unter anderen versteht, mit der Heranwachsende Belastungen und Chancen ihrer Jugendzeit zu bewältigen trachten. Der Schwerpunkt liegt deshalb auf der Analyse der Bewältigung jugendtypischer Entwicklungsaufgaben und der Teilhabe an der Jugendkultur. Neben einer breiten Palette jugendlicher Verhaltensbereiche, Freizeitaktivitäten und Devianzen werden die jugendtypischen ökologischen Settings, nicht nur die mit Drogenszenen verbundenen, berücksichtigt.

Die Studie verwirklicht ein komplexes prospektives Längsschnittdesign, das über 2.000 Berliner Jugendliche

aus drei Kohorten der Normalpopulation im Altersbereich von 11 bis 17 Jahren erfaßt. Die Erhebungen finden seit 1982 zumindest jährlich wiederholt statt. Um die unfruchtbaren Dichotomien in der Jugendforschung, wie personorientiert/situationsorientiert oder quantitativ/qualitativ zu überwinden, werden Entwicklungsmuster auf 3 Ebenen erfaßt. Die Ebenen lassen sich danach unterscheiden, wie die Interaktion von Person und Setting analysiert wird: Auf der Kovariationsebene werden Personmerkmale individuell gemessen, Informationen über die Settings beschränken sich aber auf aggregierte Massenstatistiken. Auf der Interdependenzebene werden umgekehrt die Settings durch Feldbeobachtungen und Interviews individuell erfaßt, während die Personmerkmale aggregiert sind. Auf der Transaktionsebene schließlich werden beide Seiten, Person und Setting, in Art von Fallstudien in ihrer realen Interaktion beobachtet. Zu beachten ist dabei, daß der Längsschnittcharakter auf allen Analyseebenen voll gewahrt wird.

Die Ergebnisse des Berliner Jugend-Längsschnitts werden Beiträge liefern zur Ätiologie des Gebrauchs und Mißbrauchs von Suchtmitteln, zur Planung von Präventionsmaßnahmen vornehmlich in der freien Jugendarbeit und allgemein zu Fragen der Jugendentwicklung unter den Bedingungen heutiger Jugendkultur.

(Projektleiter: Prof. Dr. R.K. Silbereisen
Prof. Dr. K. Eyferth)

Action Theory Perspective in Research on Social Cognition[1]

Action and development overlap conceptually and empirically, as Chapman & Skinner (this volume) demonstrate. They stress the contribution of action theory to developmental psychology and vice versa. Their analysis may benefit from a stricter differentiation between action theories on one hand and action theory models or perspectives on the other. Thus the first aim of this chapter will be to clarify further what is meant by an action theory perspective for the study of human development.

Chapman & Skinner deal exclusively with studies on the relationship between control beliefs and effortful performance. Although both variables are conceptualized in an action theory perspective, the dominant viewpoint throughout their discussion is that of personality research. The action theory contribution to the study of development appears to be somewhat underrepresented. Thus, the second aim of this chapter will be to report a series of studies which are clearly developmental. The main focus will be on social cognition. In this field, the action theory perspective has inspired new trends in conceptualization and methods in the past several years.

The present chapter attempts to present not so much an evaluative commentary as a view complementary to that of Chapman & Skinner. What the action theory perspective offers to developmental psychology--this is demonstrated using concepts as well as data.

1. Action Theory Perspective: The Heuristic Function of a Fiction

Theories and methodologies as well as empirical strategies realize what I call an action theory perspective if and when human beings are assumed to be potentially reflective and acting intentionally with reference to the environment (cf. Eckensberger & Silbereisen, 1981). Generally speaking, action as a conceptual unit of analysis has been seen as promising because of two advantages: (a) Since other disciplines such as sociology, anthropology or history also deal with human action, an action theory perspective entails the challenge of developing a general theory of action. Such a metatheory could be seen as greatly facilitating interdisciplinary cooperation. (b) The concept of action appears to permit analyses of individuals and their environments in a common conceptual framework. This is because one can understand many aspects of the physical and the social environment as either intended effects or unintended aftereffects of actions.

The action theory perspective described so far offers a general paradigm, comparable in scope with other general paradigms in psychology. A further step is required if fundamental categories and processes of psychic life are to be seen in this perspective. Development is the case in point.

An action theory perspective on psychological development regards development itself as actively initiated by intentional, goal-directed (inter)actions of the developing subjects themselves. This notion of development as action is similar to concepts such as that in "Development as Action

in Context" (Silbereisen & Eyferth, in press) or "Individuals as Producers of Their Development" (Lerner & Busch-Rossnagel, 1981).

Development seen as action in context is what philosophers of science call a metaphysical model or a world view (cf. Bunge, 1973). These do not depict reality in a literal sense, but are part of a network of scientific assumptions within which they have the heuristic function of helping clarify and systematize basic concepts of a research area. An action theory model of development is located on the same level of generality as other models of development, e.g., those which Overton & Reese (1973) termed the mechanistic and organismic ones. The question here is not which model is the correct one, but rather, which model is more fruitful in stimulating new ideas and innovative research for particular phenomena of change.

The latter is what is meant by "the heuristic function of a fiction." Research in different domains of development or in different sections of the life-span seems to be guided by different models of development. Kuhn (1978) demonstrated this by comparing paradigms in research on cognitive and social development. Thomae (1981) argued for a particular model of development in psychogerontology.

What, then, is the realm of an action theory perspective on development? As to sections of the life-span, I have argued elsewhere (Silbereisen, in press) that such a model contributes particularly well to understanding the psycho-social nature of adolescence. This transitional stage between child-

hood and adulthood is a candidate especially because its existence and quality is subject to intentional, goal-directed interventions, i.e., actions, both on the part of the individual and on the part of the society at large. Without going into too much detail, two arguments supporting this position should be mentioned: (a) The length of duration of adolescence is subject to individual efforts of the young people themselves. Several recent studies have demonstrated (cf. Fischer, Fischer, Fuchs & Zinnecker, 1981) that a subgroup exists among youths today which actively attempts to postpone the transition to adulthood. This so-called youth centrism is a system of personal goals whose common demonimator is the postponement of adult-typic world orientations as long as possible. (b) Youth centrism is accompanied by a related societal phenomenon: In our highly industrialized societies, an extension of adolescence has taken place during the past 10 to 15 years. This post-adolescence occurs after coming of age when independence in the psycho-social realm is at odds with economic dependence. This shift towards divided autonomy requires nontraditional adaptational measures in the family system, especially among lower class families. Thus adolescence as a life stage is itself subject to intentional change--by social forces as well as by individual decisions. A similar view could be taken of other transitional stages in the life-span (cf. Luszcz, 1983).

As to domains of development, an action theory perspective particularly well suits all phenomena where individuals

themselves actively attempt to further their own development. This is especially true for cases where self-enhancing and self-guiding one's life-course is the predominant goal of development. The numerous aspects of identity-formation and self-concept development are prominent examples. Identity and self-concept are constituted as results of complex information processing activities which, in turn, are themselves candidates for applying the action theory perspective. Because the next section deals exclusively with social cognition, further details on information processing are omitted here.

So far I have delineated the action theory perspective on development. What about commonalities with and differences to action theories? A common mistake is to equate the action theory perspective with a single particular theory of action organization. Models of the Miller, Galanter & Pribram (1960) type (for further examples cf. Hacker, 1980; Volpert, 1983; Carver & Scheier, 19), however, are frequently seen as the action theory. Although Chapman & Skinner (this volume) do not explicitly mention this as their basic assumption, they do structure their presentation according to typical components of the Miller et al. approach: "Goal setting and plan selection," as they put it in a section heading, is not representative of all, but of one type of action theory only.

A well-known alternative to the Miller et al. model is Lewin's (1951) approach to the analysis of subjective action spaces. In comparing the two models, one issue becomes

obvious: different action theories do not embrace the same components or processes of action. While Miller et al. differentiate the microgenesis of the process of action planning and execution, Lewin (1951) differentiates the contents of a subject's action space. Actually, then, an action theory perspective allows not just for one action theory but for many theories of action.

If one considers more specific theories, i.e., theories directly related to observable data, the number of alternative, competing action theories becomes immense.

So far I have illustrated the view of development as action by showing that certain stages of the life-span (e.g., adolescence) and certain domains of psycho-social change (e.g., identity) are particularly well-suited to the action theory perspective. Now I would like to consider the methodolcgical consequences this approach entails. A starting point is to recall what data are required if one takes action as a unit of psychological analysis.

A key to the action theory perspective as I see it seems to be interest in data on the microgenetic interplay between observable behavior on one hand and covert cognitive and emotional processes on the other. This, of course, is an immediate consequence of the concept of action as goal-directed behavior. The departure from a rehash of the old debate on the role of introspection in psychology lies precisely in the emphasis on interplay.

What is required, then is to establish a systematic

correspondence between covert processes and observable behaviors. In doing so, it is hoped that regulatory processes of action will be depicted. Development as action--this formula assumes that the course of self-directed development on the whole is a result of a series of coordinated actions and, therefore, somehow structurally analogous to the microgenesis of simple actions. Hence, methods aimed at studying the interplay between plans and outcomes, i.e., the formation of strategies, are essential for developmental research, too.

As to methods and instrumentation which fit into the methodological constraints of the action theory perspective, v.Cranach's research group (e.g., v.Cranach, Kalbermatten, Indermühle & Gugler, 1980) leads the field. Their main method is a combination of systematic observation and what they call the self-confronting interview: a subject watches a video tape of his/her own actions and is asked to describe the cognitions and emotions accompanying the action in a sort of stimulated-recall technique. The validity of the recalled cognitions and emotions is considered by several authors (cf. Nisbett & Wilson, 1977) and, by and large, positively judged.

In sum, although the action theory perspective on development is not the only possible perspective, it does provide a heuristic fiction, a model to guide research by certain demands concerning theoretical and methodological assumptions. In the following section, the principles of an action theory perspective on development will be illustrated by examples

of studies on social cognition. The approach will be traced from the redefinition of concepts through alternative methods to, I hope, provocative results.

2. Research on Social Cognition in an Action Theory Format

Inherent in all the action theory perspective is a challenge to develop theoretical and methodological concepts which view behavior, cognition and emotion as entirely connected. Attempts to establish this connection post hoc by co-relating empirical data do not adequately meet the challenge.

Research on social cognition is the case in point. Although in everyday life a person's attempts to understand another person's "social perspective," i.e., motives and thoughts, are embedded in social interactions, research on social cognition has nearly always disregarded these natural circumstances. Socio-cognitive capabilities were mostly studied in artificial contexts (e.g., cartoon stories instead of real-life experiences) where neither personally relevant interaction goals nor realistic means were present. The relationship between both parts--interactional behavior and social cognition--has been established afterwards by statistically correlating the two independently measured variables instead of studying both in a common framework (cf. Kurdek, 1978).

Only recently have studies been published which shed light on the interplay between thinking and behavior in natural action contexts: (a) Bar-Tal, Raviv & Leiser (1980)

as well as others (cf. Eisenberg & Silbereisen, in press) systematically investigated reasons (i.e., the results of socio-cognitive processing) for prosocial behavior in the respective social contexts. (b) Among the very few studies is Selman's study (1982). He investigated whether adolescents actually used those levels of perspective taking in everyday social interaction which are appropriate to the competence level of their age group. An example is self-reflective perspective taking, i.e., predicting another's action as reaction to one's own prior action. Contrary to what might have been expected based on the subjects' compentence, this level of perspective taking was seldom used, and then only in contexts where the subject felt attacked by his/her partner.

I now wish to argue that an action theory perspective does provide research on social cognition with a fresh, unifying framework.

Eckensberger & Silbereisen (1980) tried to overcome what we felt was an a-theoretical, merely nominal definition of social cognition (cf. Flavell, 1977): "people reading," i.e., social cognition is social because of persons and their relationships as objects of cognition. In contrast to this, we redefined social cognition as simply thinking about action, i.e., cognition about goal-directed, intentional behavior of people in their environment. Thus the conceptual difference between cognition and social cognition lies not in the subject matter of thought (objects vs. people) but in the attributed type of activity (pyhsical movement vs. human action

Of course this is a gross differentiation. On the other hand, social cognition seen in an action theory format permits categorization into several hypothetical processes. Perspective taking (cf. Flavell, 1977; Selman, 1980), the construct on which most earlier research efforts were concentrated, could be reinterpreted as a compound of several processes aimed at tackling different components of one's own or the other's action: goal-taking, means-ends taking, etc. Interestingly enough, this reinterpretation enables otherwise unconnected research traditions, e.g., that on perspective taking and that on so-called interpersonal problem solving skills (Shure & Spivack, 1978) to be coordinated. The most advanced of their interpersonal skills exactly corresponds, in the action theory reinterpretation, to means-ends taking, i.e., coordinating means and ends in an ordered sequence of alternative action plans.

In a series of studies, my coworkers and I are evaluating the actual role of thinking about action in three interaction contexts: action accompanying social cognition in children's traffic behavior, in referential communication between parent and child, and in trainer-trainee interaction between adults and adolescents.

2.1 Action Accompanying Social Cognition in Traffic Behavior

A study by Baumgardt, Küting & Silbereisen (1981) on children's goal-directed behavior in everyday traffic utilized both aspects of an action theory perspective: the variables under scrutiny were conceptualized in an action theory frame-

work, and the methods were specially designed to reveal the interplay between cognition and behavior.

Twelve children (six from the first and six from the fourth grade) were escorted separately by an interviewer along the route to their school or playground. The children were instructed to consider themselves experts explaining to the interviewer how they coped during the outing. Thus the children reported their spontaneous thoughts regarding their part in traffic and regarding street events including others' traffic behavior. The interviews were in the form of open dialogues directed largely by the child's utterances. The interviewer's role was to ask those questions necessary to establish which goals, means of action or possible consequences the child considered when observing its own actions or those of others. The interviews were recorded on cassette tape and transcribed; the average length was 20 minutes. The children's comments upon a total of 113 street traffic episodes were analyzed.

All the episodes were analyzed, first, according to the complexity with which the structural components of actions (i.e., goals, means, ends) were interrelated in the child's thinking; and second, according to the level of social perspective taking implicit in the action plans.

The complexity of action planning was divided into three categories: (a) episodes containing a simple mention or enumeration of action steps ("Wait here, look left and right, then cross"); (b) thinking in simple means-ends relationships or

(c) considering alternative means-ends relationships, i.e., evaluating the relative merits of alternative actions ("If you're riding your bike and someone is driving beside you, it can very easily happen that somebody opens a car door. That is really dangerous, and then if you swerve to avoid the door, the problem is there can be another car coming from behind").

The results of a comparison between the two grades are shown in Table 1.

Table 1 about here

There is a clear age trend in the children's action planning. Single action steps and simple means-ends-relationships predominate among the first-graders. The fourth-graders' thinking is characterized by simple means-ends-relationships and alternative means-ends-relationships as well. The relative importance of single action steps vs. alternative means-ends-relationships is reversed between the two groups: only 9% of the first-graders' episodes, but 30% of the fourth-graders' show the highest category of action planning. And while single action steps characterize 45% of the first-graders' episodes, only 9% of the fourth-graders' episodes are so characterized. (Despite the low percentage of single action steps reported by older children, it would be a misinterpretation of the data to conclude that older children did not think at this level of complexity. Presumably, children report what they feel is important; and for the older children, thinking in single action steps is apparently so routine as not to be

worth mentioning.)

The same episodes were then evaluated according to the level of perspective taking (cf. Selman, 1980). Four categories were used: (a) no perspective taking--simple description; (b) subjective perspective taking--the perspectives of self and other are recognized as potentially different, but another's subjective state is believed to be legible by simple physical observation; (c) self-reflective perspective taking--the child puts itself into another's shoes and expects the other to do the same; (d) mutual perspective taking--the perspectives of self and other are both viewed from a third-person or generalized other perspective. The data are shown in Table 2.

Table 2 about here

Whereas only 18% of the younger children's remarks took any account of another person's social perspective at any level, 62% of the older children's did. Clearly, the older children more often took into account actions, feelings or perceptions influencing others' behavior in traffic situations. An 11-year-old offered an example of self-reflective perspective taking: "That driver should really be careful, because when he drives so fast (driver is turning right), that woman (riding a bicycle straight ahead) can't see him." Age differences for self-reflective perspective taking are again striking.

In sum, the data show clear age differences in the complexity as well as in the social sensitivity of action plan-

ning. Whether a few or even a noticeable proportion of the reports may have been, strictly speaking, not action accompanying but rather retrospective interpretations is unimportant for the present argument. The critical point is that the situation required thinking about action, i.e., social cognition in a natural context.

Comparing the age trends in Table 2 with what is known from Selman's competence measurements, there appears to be a striking underrepresentation of the more developed modes of social cognition in the present data. Selman, however, did not use task materials involving traffic behavior. Hence, the question arises whether the discrepant results mirror differences between hypothetical competence and performance or situational peculiarities. Fortunately, Günther (1981) also studied perspective taking--but using traffic situations; his task materials, however, were hypothetical, cartoon-like stories. The children in his study also showed higher perspective taking levels than those we found in the natural context of real traffic behavior. Thus, his results lend support to the conclusion that, in natural situations, children plan and organize their actions below their competence level.

Acting at a socio-cognitive level lower than one's competence may occur for one of two reasons: the situation may be so routine as not to require advanced thinking modes, or the subject may completely misinterpret the situation's demands. In a study designed to distinguish between these two

possibilities, parents and their children were exposed to a novel situation which actually required non-routine social understanding.

2.2 Action-accompanying social cognition in referential communication

To communicate effectively, one has to adapt one's message to the listener's situation and dispositional requirements. A sort of tuning is required which can be guided by socio-cognitive processes.

If adults are asked to reflect upon why verbal communication between two people has been successful or unsuccessful, they are likely to recognize that a speaker may convey the intended meaning ambiguously or unambiguously; that if a message is ambiguous, the listener may make an incorrect interpretation, and that to guarantee a correct interpretation of an ambiguous message, the listener must be given more information. However, data collected by a number of researchers using a variety of procedures and methods of analysis (cf. Robinson, Silbereisen & Claar, 1984), confirm the view that children of about five commonly do not have such understanding. Such children do not make an accurate analysis of the causes of communication failure, and they do not use their linguistic skills as effectively as they might either as speakers or listeners.

Incidental natural observations have led researchers (cf. Robinson & Robinson, 1981) to hypothesize that children remain

ignorant of the reasons for their messages' ambiguity because of the way their parents or other adults normally talk with them in everyday settings: the adult's usual strategy for dealing with misunderstandings and non-understandings presumably does not inform the child that there is a communication problem. Parents relatively seldom give their children explicit information about the causes of misunderstandings.

A direct test of these assumptions requires more than just measuring communication efficiency or observing interaction sequences: communication strategies are conceived as goal-directed, intentional behavior, i.e., actions. Thus attempts at discovering communication strategies have to take into account these goals and intentions and--more generally still--all the action-accompanying social cognitions.

In two studies my colleagues and I investigated parental communication strategies in an action theory format.

Study 1

The core of the experimental paradigm was a task of the referential communication type which is often used in research on communication failures.

The task required the child to select four out of eight dolls and to place them on a toy truck's four seats which could be described in terms of position (front or back row) and color (brown or white). The dolls differed in only a few details of clothing and hair style. The child was asked to describe these dolls and their position to a female adult listener who was optically separated by a screen. The lis-

tener had an identical set of eight dolls and a toy truck on her side of the screen. She attempted to reproduce the child's placement of dolls in the truck by following its clues. The task was designed to be difficult enough that 6-year-old nursery school children would not be able to give unambiguous information on the specific doll and seating position. In other words, they were not old enough to be sufficiently aware of the critical referents in the referential (!) communication task. Consequently, the listener had to tell the child repeatedly that she did not know which doll it was talking about. The child's mother (in a few cases, the father) took part in the task as a naive observer. The parents were told they might try to help their child during the task if they wished; and most did.

In a first study, Walper, Wülle & Silbereisen (1981) used the research paradigm with a group of 17 nursery school children and their mothers. Theoretically, the parents could have intervened in such a way as to maximize the child's learning of advanced referential communication skills. Yet most parents failed in their attempts to do so, as their children's non-significant pre/post-gains in a referential communication test (Dickson, 1979) demonstrated. This was also true for another 13 children under control conditions where mothers were absent during the task.

Study 2

The following analysis of the action-accompanying cognitions sheds more light on why parents miss the chance to

help their children develop referential communication skills. In order to do so, the self-confronting interview technique (cf. v.Cranach et al., 1980) was used: video recordings of the parent-child interaction were shown to the parents in a series of short clips. Parents were asked to recall their thoughts and feelings in each situation. These comments were then transcribed. A further group of 12 nursery school children and their mother were used in this study by Silbereisen & Claar (1982).

In all, 278 cognitions were excerpted from the parents' communications. Of these cognitions, 105 had the self as object and 173 were directed towards the child. Only the child-directed cognitions were analyzed for both action components and perspective taking level.

The following action components were differentiated: (a) information reception ("She hadn't noticed that two dolls were quite similar"), (b) information processing ("Now, with the second doll, she knows what the point is"); (c) action goals ("And then she wanted to rearrange all the dolls"); (d) action step ("She took the doll out of the car"); (e) action plan, i.e., a more complex coordination of steps and goals of action ("And then I heard her say, 'She's wearing a short skirt,' so it won't happen again that the wrong doll ends up sitting there"); (f) emotional process ("She was a little bit embarrassed then"); (g) motivational process ("I had the impression that he didn't want to continue"); (h) evaluation ("Then she mentioned the

tie, which I thought was good, since the other one didn't have one of these ties").

Every cognition was further analyzed for level of perspective taking: (a) no perspective taking; the child and its actions are exclusively viewed from the parents' perspective; (b) simple perspective taking; the child's view is taken into consideration by the parent; (c) complex perspective taking: any higher level (cf. Selman, 1980). Because only 2% of the cognitions showed a complex level of perspective taking, categories (b) and (c) were combined and called "internal perspective."

The frequencies of the several action components, broken down by perspective taking level, are depicted in Figure 1.

Figure 1 about here

In only 66 out of 173 cases (38%) was the internal perspective of the child, i.e., its action planning, the target of parents' social cognition. About half of these (32 or 18%) were directed towards the child's information reception and processing. Emotional processes (11, or 6%) and evaluation (11, or 6%) also contributed considerably to these cognitions which are related to the child's internal perspective.

Parents' cognitions concerned goals and plans, however, in only a few cases (8, or 5% of all cognitions)--regardless of perspective taking level. The parents were dealing mostly with the more peripheral information processing

aspects of their children's action regulation. One may conclude that their efforts to assist their children failed because they lacked insight into the deep structure of the task and the child's problem.

Systematic content analyses of parents' verbal instructions during the task supported these conclusions. All the parents' verbal utterances were categorized into one of seven communicative functions: statement, denial, proposal, question, doubt, directive and cooperation. There was a striking difference in the profile of communicative functions between those utterances where (a) the parents assisted in discriminating among the dolls and in naming their attributes ("discriminating and naming") and (b) those where the parents referred to the ambiguity of the message and its potential source ("communication").

The data are shown in Table 3. Group 2 mentioned in the table represents an independent replication of the study.

Table 3 about here

Whenever the parents tried to talk about the communication problems, their attempts were almost totally confined to neutral statements and directive utterances. They most often gave their children vague orientations regarding the communicational demands ("You have to say it the right way"). This pattern of results contrasted sharply with the data concerning discriminating and naming. Here, besides concrete

statements and directives, a considerable portion of the communicative actions were questions.

Further analyses showed no systematic temporal contingency between child-directed cognitions and parents' efforts to explain the communication demands.

Taking together the results of the two studies on action accompanying social cognition in referential communication, what has been the contribution of the action theory perspective? First, the actual role of social cognition in natural social interaction has been made clearer: socio-cognitive processes of the perspective taking type can no longer be conceived as the or even a dominant organizational principle of social action. Whether in routine or in novel action, elaborate levels of perspective taking occur too rarely to be assigned that role. Even in the few cases where socio-cognitive processes are at work, they do not so much concern the internal perspective of the interaction partner (i.e., his/her thoughts and feelings) but rather the more peripheral aspects of action planning. We concluded that parents were not able to take the opportunity to improve their children's communication skills because they were ignorant of the fact that the children were unaware of the ambiguity in their statements.

This insight into the dynamics of missed helping opportunity invites speculation on the mechanisms of development. Within the framework of cognitive-developmental theories (cf. Turiel, 1974), development is understood to be promoted by inducing cognitive conflicts between an individual's expec-

tations on one hand and discrepant experiences on the other. According to Turiel, cognitive conflicts can only be set up when two independent conditions are met: (a) an optimal mismatch (a not too great discrepancy) must be established between the child's socio-cognitive capabilities and the demand structure of the task, and (b) this mismatch has to be experienced by the child as contradictory and problematic.

Mugny, Perret-Clermont & Doise (1981), Lefebvre-Pinard & Reid (1980), Silbereisen (1981) and others have demonstrate the effectiveness of explicit conflict induction in training and education settings. These results, however, do not confirm the hypothesized role of cognitive conflicts in spontaneous, natural interactions.

To return to the parent-child interaction study: what is the significance of the results for current views of cognitive conflicts seen as mechanisms of development? The parents might have pointed out to their children the discrepancy between the children's efforts to communicate effectively and the failures to do so. The failures were repeatedly evidenced by the experimenter's responses. The question would then have been whether the parents failed to help their children despite having induced cognitive conflicts. Yet none of this was the case. Neither in the parents' commentaries to the video clips nor in their interventions in the task nor in open discussions conducted a few weeks after the experimental sessions was there a single incident of attempt to induce cognitive conflict--either ex-

plicitly or without conscious intent.

This finding raises questions as to the significance of cognitive conflicts as mechanisms of development in natural contexts. Because action accompanying cognitions and their roles are crucial to the entire argumentation, a final look at some of their peculiarities follows.

2.3 Action accompanying vs. retrospectively interpreted social cognition in trainer-trainee interaction

For a full understanding of the specificity of action accompanying cognitions, a systematic comparison with retrospective interpretations of one's own or other's activities is required. This was done in Schuhler's dissertation (1983) on trainer-trainee interaction.

In a vocational training workshop, interactions between master craftsmen and their apprentices were recorded on cassette tape for two hours. In all, ten master craftsmen took part. From the tape of each training group, those sections were marked where the master craftsman had been involved in a personal clash with one or more of the apprentices. A personal clash was defined as a situation where an argument about disciplinary matters, refusal to work, or a factual disagreement arose. In all, 36 situations containing personal clashes were recorded.

The marked sections of the tape were then collected and played back to the master craftsmen, who were asked to describe what had happened. These interviews were about 30 minutes long. Analyzing the transcripts, Schuhler (1983)

differentiated between what seemed to be mere retrospective interpretation and actual action accompanying cognitions.

Of a total of 271 reported items, 31 (11%) were found to be action accompanying cognitions. This particular proportion, of course, should be seen as task-specific. Each reported item was assigned to one of three categories: (a) goals ("I wanted him to notice that he was useless"); (b) motivational processes ("I can't say why, but I think it's for their own good to get a proper dressing down"); and (c) strategies ("I wasn't too fussy about the fact that her work was sloppy, even though she wants to be a dressmaker; I didn't want to spoil her satisfaction in it").

Table 4 shows the breakdown into retrospective interpretation and action accompanying cognitions. For the master craftsmen, the retrospective items are further classified as intrepretations of either their own or of their apprentices' interactions.

Table 4 about here

Comparing the two types of retrospective interpretations, a striking difference appears: Whereas the percentages of goals, motivational processes and strategies are balanced (25%, 41% and 35%) when interpreting their own actions, motivational processes heavily dominate (88% for this single category) when reporting the apprentices' action. From the master craftsmen's perspective, the apprentices' "psychology" is totally different from their own: apprentices

are not thought to set goals nor to follow strategies; instead they are thought to be driven by motivational processes. In other words, the master craftsmen attribute intentionality and goal-directedness to themselves only. As "psychologists" they would seem to have their own naive action theory perspective: they see themselves as goal-oriented and deliberate, yet perceive the other as suffering from serious action planning deficits.

Here again we have an instance of social cognition: thinking about action appears to be influenced by the thinker's self-concept or even world view.

3. Action for development: a summary of potential contributions

The redefinition of social cognition as thinking about action has consequences for both concepts and methods.

First, normative models of action organization acquire a role in structuring the potential content of social cognition. So far, the model has been fairly simple. In all the studies described, it has contained little more than the structural components of actions, i.e., goals, means and ends. Certainly, process models of action organization will provide a further differentiation. It should be mentioned, however, that models of the Miller, Galanter & Pribram (1960) type are too simple to analyze social interaction adequately. Social interaction is best described by what Kaminski (1983) called the multiple action paradigm, in which two or more

action units occur relatively independently of each other at any given time.

The master craftsmen in Schuhler's study (1983), e.g., may be pursuing training goals and egocentric needs simultaneously during a clash with their apprentices. Approaches that elaborate on the basic assumptions of the multiple action paradigm have been presented by Janis & Mann (1977) or Fuhrer (1982).

Second, the action theory perspective has necessitated research on social cognition in natural interaction contexts. New methods are needed to uncover thinking about action in the mélange of everyday activities. One of these is the stimulated recall technique using video playback as in Silbereisen & Claar's (1982) and Schuhler's (1983) studies.

What has the action perspective, as realized so far, contributed by way of results on the development and maintenance of social cognition? Clear age differences in thinking about goals, action steps and their strategic coordination have been established. Baumgardt, Küting & Silbereisen (1981) reported that action organization becomes more complex the older the children are. On the other hand, people's thinking in natural contexts occurs at simpler levels than their actual competence. This is true for the mental organization of children's traffic behavior as well as for adults' attempts to assist their children in potentially instructive situations.

There is no obvious single cause of suboptimal social thinking: on one hand, the circumstances of everyday social interaction are often such that misunderstandings do not lead to catastrophe. For example, traffic regulations "free" the individual from the necessity of taking the perspective of others and predicting their behavior at a street crossing. The reduced socio-cognitive complexity in everyday behavior has its costs, however. As Silbereisen & Claar (1982) demonstrated, mothers did not draw on their more complex thinking resources even in situations where routine attempts had failed.

The question is, which situational cues cause a person to call upon the full range of his/her socio-cognitive repertoire? Schuhler's study (1983) provides one answer, viz., the actor's understanding of the interpersonal relationship is an important determinant. The master craftsmen attributed much greater action-like behavior complexity to themselves than to their apprentices.

The data are far from conclusive. The number of cases in each study was small, and the situations were entirely different. What does seem clear, however, is that further systematic research using the action theory perspective can contribute to a fuller understanding of how social action is organized and develops.

Note

An earlier version of this paper was presented at the Second Planning Conference on Child Development in Life-Span Perspective, held at the Max-Planck-Institute for Human Development and Education, Berlin (West Germany), July 9-11, 1981. The studies reported were supported in part by the German Research Council Grant Si 296/1-1,2,3,4 (principal investigator: Silbereisen) and the Federal Highway research Institute Grant 8011 (principal investigator: Silbereisen). The author wishes to thank Mary Grunwald for her helpful comments.

References

Bar-Tal, D., Raviv, A., & Leiser, T. The development of altruistic behavior: empirical evidence. Developmental Psychology, 1980, 16, 516-525.

Baumgardt, C., Küting, H.J., & Silbereisen, R.K. Social competence as an objective of road safety education in primary schools. Paper presented at the International Conference on Road Safety, Cardiff, September 7-11, 1981.

Bunge, M. Method, model and matter. Boston: Reidel, 1973.

Carver, C.S., & Scheier, M.F. Attention and self-regulation. A control-theory approach to human behavior. New York: Springer, 1981.

Claar, A., & Silbereisen, R.K. Stimulation of social cognition in parent-child interaction: Do parents make use of appropirate interaction strategies? Paper presented at the conference on "New Perspectives in the experimental study of the social development of intelligence", Université de Genève, June 10-12, 1982.

Cranach, M.v., Kalbermatten, U., Indermühle, K., & Gugler, B. Zielgerichtetes Handeln. Bern: Huber, 1980.

Dickson, W.P. Referential communication performance from age 4 to 8: Effect of referent type, context and target position. Developmental Psychology, 1979, 15, 470-471.

Eckensberger, L.H., & Silbereisen, R.K. Handlungstheoretische Perspektiven für die Entwicklungspsychologie sozialer Kognition. In L.H. Eckensberger & R.K. Silbereisen (Eds.) Entwicklung sozialer Kognition: Modelle, Theorien, Methoden, Anwendung. Stuttgart: Klett-Cotta, 1980, 11-45.

Eisenberg, N., & Silbereisen, R.K. The development of children's prosocial cognitions: Research, theory and new perspectives. In H.E. Sypher & J.L. Applegate (Eds.) Social cognition and communication. Hillsdale, N.J.: Erlbaum, in press.

Fischer, A., Fischer, R., Fuchs, W., & Zinnecker, J. Jugend '81. Hamburg: Jugendwerk der Deutschen Shell, 1981.

Flavell, J.H. Cognitive development. New York: Prentice Hall, 1977.

Fuhrer, U. Defiziente und sub-optimale Strategien des Handelns im Umgang mit hoher Aktivitätskomplexität. Psychologische Beiträge, 1982, 4.

Günther, R. Untersuchungen aus drei Bereichen zur Urteilsbildung von Kindern und Erwachsenen. Unpublished manuscript (Universität Tübingen), 1981.

Hacker, W. Allgemeine Arbeits- und Ingenieurpsychologie. Psychische Struktur und Regulation von Arbeitstätigkeiten. Berlin: VEB Deutscher Verlag der Wissenschaften, 1980.

Janis, I.L., & Mann, L. Decision making. New York: Free Press, 1977.

Kaminski, G. Probleme einer ökopsychologischen Handlungstheorie. In L. Montada, K. Reusser & G. Steiner (Eds.) Kognition und Handeln. Stuttgart: Klett-Cotta, 1983.

Kuhn, D. Mechanisms of cognitive and social development: One psychology or two? Human Development, 1978, 21, 92-118.

Kurdek,

Lefebvre-Pinard, M., & Reid. L. A comparison of three methods of training communication skills: Social conflict, modeling, and conflict-modeling. Child Development, 1980, 51, 179-187.

Lerner, R.M., & Busch-Rossnagel, N.A. (Eds.) Individuals as producers of their development: A life-span perspective. New York: Academic Press, 1981.

Lewin, K. Field theory in social science. New York: Harper and Row, 1951.

Luszcz, M.A. An attitudinal assessment of perceived intergenerational affinities linking adolescence and old age. International Journal of Behavioral Development, 1983, 6, 221-231.

Miller, G.A., Galanter, E.A., & Pribram, K.H. Plans and the structure of behavior. New York: Holt, Rinehart & Winston, 1960.

Mugny, G., Perret-Clermont, A.N., & Doise, W. Interpersonal coordinations and sociological differences in the construction of the intellect. In G.M. Stephenson & J.M. Davis (Eds.) Progress in applied social psychology, Vol. 1. New York: Wiley, 1981.

Nisbett, R. & Wilson, T.C. Telling more than we can know: Verbal reports and mental processes. Psychological Review, 1977, 84, 231-259.

Overton, W.F., & Reese, H.W. Models of development: Methodological implications. In J.R. Nesselroade & H.W. Reese (Eds.) Life-span Developmental Psychology: Methodological issues. New York: Academic Press, 1973, 65-86.

Robinson E.J., & Robinson, W.P. Ways of reacting to communication failure in relation to the development of children's understanding about verbal communication. European Journal of Social Psychology, 1981, 11, 189-208.

Robinson, E.J., Silbereisen, R.K., & Claar, A. La developpement de la communication. In G. Mugny (Ed.) Psychologie sociale du developpement cognitif. 1984.

Schuhler, P. Perspektivenübernahme im Handlungsvollzug: Konzeption und Evaluation eines Interventionsprogramms. Technische Universität Berlin: Unpublished dissertation, 1983.

Silbereisen, R.K. Untersuchungen zur Frage sozial-kognitiv anregender Interaktionsbedingungen. In D. Geulen (Ed.) Perspektivenwechsel, Rollenübernahme, Verstehen. Frankfurt/M.: Suhrkamp, 1981.

Silbereisen, R.K. The changing adolescent in a changing world: From segregation to integration of approaches. In R.K. Silbereisen & K. Eyferth (Eds.) Development as action in context. New York: Springer, in press.

Silbereisen, R.K., & Eyferth, K. (Eds.) Development as action in context. New York: Springer, in press.

Selman, R.L. The growth of interpersonal understanding. New York: Academic Press, 1982.

Shure, M.B., & Spivack, G. Problem-solving techniques in child rearing. San Francisco: Jossey-Bass, 1978.

Thomae, H. The Bonn longituninal study of aging (BLSA). An approach to differential gerontology. In S.H. Melnick & A.E. Baret (Eds.) Prospective longitudinal studies research. Oxford: Oxford University Press, 1981, 165-197.

Turiel, E. Conflict and transition in adolescent moral development. Child Development, 1974, 45, 14-29.

Volpert, W. The model of the hierarchical-sequential organization of action. In W. Hacker, W. Volpert & M.v. Cranach (Eds.) Cognitive and motivational aspects of action. Amsterdam: North-Holland, 1982, 35-51.

Walper, S., Mülle, K., & Silbereisen, R.K. Stimulation of social cognition in children: Do parents use theoretically appropriate interaction strategies? Paper presented at the Sixth Biennial Meeting of the International Society for the Study of Behavioral Development, Toronto, Canada, August 17-21, 1981.

Table 1

Complexity Levels of Action Planning in First- and Fourth-graders' Traffic Behavior (Percentages)

Complexity	Grade 1	Grade 2
Action steps	45	9
Means-ends relationships	46	61
Alternative means-ends relationships	9	30

Note: n of episodes 56 (grade 1), 57 (grade 4).

Table 2

Perspective Taking Levels of Action Planning in First- and Fourth-graders' Traffic Behavior (Percentages)

Level of perspective taking	Grade 1	Grade 4
No perspective taking	82	39
Subjective perspective taking	16	44
Self-reflective perspective taking	2	16
Mutual perspective taking	0	2

Note: n of episodes 56 (grade 1), 57 (grade 4).

Table 3

Differences in Parents' Communication Pattern

(Percentages)

	Content			
	Discriminating and naming		Communication ambiguity	
	Group 1	Group 2	Group 1	Group 2
Communicative function				
Statement	29	17	47	32
Denial	2	11	2	11
Proposal	1	6	8	4
Question	23	21	2	6
Doubt	2	0	2	2
Directive	38	27	37	41
Cooperation	5	17	3	4

Note: n of cognitions 173 (group 1).

Table 4

Trainees' Retrospective Interpretations and Action Accompanying Cognitions Concerning Goals, Motivational Processes and Strategies (Percentages)

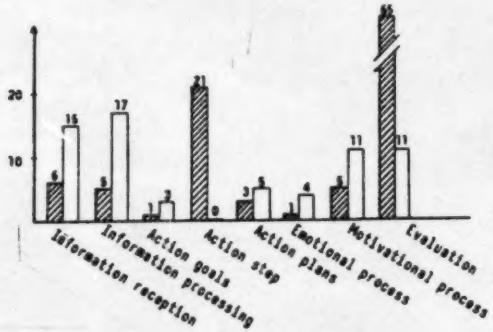
	Goals	Motivational processes	Strategies
Retrospective interaction			
Own action	25	41	35
Other's action	6	88	5
Action accompanying cognition	35	20	45

Note: n of cognitions 153 (own action), 87 (other's action) and 31 (action accompanying).

Figure 1

Parents' Thinking about Child's Action:

Action Components Broken Down by Perspective Taking Level



▨ Child's internal perspective not considered
(= perspective taking level a)

□ Child's internal perspective considered
(= perspective taking levels b and c)

Bislang erschienene Berichte von TUdrop Jugendforschung

1/81 Silbereisen, R.K. & Eyferth, K.
TUdrop: Jugendforschung an der Technischen Universität Berlin.

2/81 Silbereisen, R.K. & Eyferth, K.
"Jugendentwicklung und Drogen": Antrag an die Deutsche Forschungsgemeinschaft.

3/81 Silbereisen, R.K., Eyferth, K. & Rudinger, G.
Internationale Fachkonferenz "Entwicklungspsychologische und ökologische Forschung zur Jugendentwicklung: Integration von 2 Ansätzen": Antrag an die Deutsche Forschungsgemeinschaft.

4/81 Silbereisen, R.K. & Eyferth, K.
"Jugendentwicklung und Drogen": Erster Fortsetzungsantrag an die Deutsche Forschungsgemeinschaft.

5/81 Silbereisen, R.K. & Eyferth, K.
Bericht über die Arbeiten während der ersten 3 Monate der Laufzeit des Projekts "Jugendentwicklung und Drogen: Eine prospektive Längsschnittstudie".

6/82 Boehnke, K., Schneider, W. & Silbereisen, R.K.
Einige methodische Ansätze im Projekt "Jugendentwicklung und Drogen".

7/82 Silbereisen, R.K.
Kann die Entwicklungspsychologie Rahmenbedingungen für die Prävention des Drogengebrauchs Jugendlicher angeben?

8/82 Boehnke, K., Eyferth, K. & Silbereisen, R.K.
Zur Stichprobenziehung im Berliner Jugend-Längsschnitt.

9/82 Boehnke, K.
Zur Erhebung von Sozialdaten im Berliner Jugend-Längsschnitt.

10/82 Boehnke, K., Schneider, W., Wilde, A. & Silbereisen R.K.
Zur subjektiven Bedeutsamkeit von Dimensionen städtischer Umwelt: Die Konstruktion eines Erhebungsinstruments.

11/82 Boehnke, K.
Fragebogen zu Grundüberzeugungen und Menschenbildern: Adaption für Erhebungen mit Jugendlichen.

12/82 Kindermann, W. & Silbereisen, R.K.
Die Bewältigung alltäglicher jugendtypischer Problemsituationen: Entwicklung eines Fragebogens.

13/82 Boehnke, K. & Walper, S.K.
Elterliche Erziehungsziele und familiäres Erziehungsklima: Adaption verschiedener Fragebogen für den Jugend-Längsschnitt

14/82 Kindermann, W. & Silbereisen, R.K.
Individuelle Anspruchsetzungen gegenüber Entwicklungsaufgaben: Entwicklung eines Fragebogens.

15/82 Kindermann W.
Ein Fragebogen zu Drogenkenntnis, Drogengebrauch und Handlungserwartungen gegenüber drogenbezogenen Situationen.

16/82 Puschak, C. & Silbereisen, R.K.
Entwicklung eines Fragebogens zu Freundschafts-Konzepten Jugendlicher.

17/82 Kindermann, W. & Zank, S.
Deviante Einstellungen und Wahrnehmung devianten Verhaltens im sozialen Umfeld: Adaption von Fragebogen.

18/82 Reitzle, M.J. & Silbereisen, R.K.
Entwicklung eines Fragebogens zur Erfassung von Freizeitmotiven Jugendlicher.

19/82 Zank, S. & Silbereisen, R.K.
Entwicklung eines Fragebogens zur Verarbeitung selbstbezogener Informationen bei Jugendlichen.

20/82 Claar, A., Boehnke, K., Zank, S. & Silbereisen, R.K.
Motive prosozialen Handelns: Theoretische und methodische Überlegungen zu einem Erhebungsinstrument.

21/82 Noack, P.W.M. & Silbereisen, R.K.
Jugendsituationen: Ein theoretischer Ansatz zur Analyse jugendtypischer Umwelten, methodische Zugänge und erste Ergebnisse.

22/82 Walper, S.K. & Silbereisen, R.K.
Auswirkungen ökonomischer Veränderungen auf das Familiensystem: Theoretische und methodische Überlegungen zu Erhebungen bei den Eltern des Berliner Jugend-Längsschnitts.

23/82 Silbereisen, R.K.
Soziales Wissen und Verstehen.

24/83 Silbereisen, R.K. & Eyferth, K.
"Jugendentwicklung und Drogen". Zweiter Fortsetzungsantrag an die Deutsche Forschungsgemeinschaft.

25/83 Boehnke, K., Eyferth, K., Kastner, P.; Noack, P., Reitzle, M., Silbereisen, R.K., Walper, S., Zank, S. Youth Development and Substance Use. First wave of a German six-year longitudinal study.

26/83 Silbereisen, R.K. & Kastner, P.
Entwicklung von Drogengebrauch - Drogengebrauch als Entwicklung?

27/83 Silbereisen, R.K.
Zur Entwicklung von sozialem Wissen und Verstehen: Perspektivenkoordination.

28/83 Walper, S. & Silbereisen, R.K. Zur Veränderung von Freundschaftskonzepten im Jugendalter.

29/83 Boehnke, K. & Noack, P.
Zum Symbolgebrauch bei Jugendlichen

30/83 Claar, A., Boehnke, K. & Silbereisen, R.K.
Zur Entwicklung von Motiven prosozialen Handelns bei 12- bis 18jährigen deutschen und polnischen Schülern

31/84 Silbereisen, R.K.
Action Theory Perspective in Research on Social Cognition